1,087,793

PATENT SPECIFICATION

DRAWINGS ATTACHED

1,087,793

Inventor: GERALD WILLIAM FLOYD

Date of filing Complete Specification: June 2, 1965.

Application Date: June 4, 1964. *No. 23189/64.*

Complete Specification Published: Oct. 18, 1967.

Index at acceptance:—H2 A (2C1, 2C3, 2CX, 5E)

Int. Cl.:—H 02 k 5/16

COMPLETE SPECIFICATION

Improvements relating to Dynamo-Electric Machines

We, ASSOCIATED ELECTRICAL INDUSTRIES LIMITED, a British Company having its registered office at 33, Grosvenor Place, London, S.W.1, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to dynamo-electric machines having their stators at least in part encapsulated in moulded insulation.

According to the present invention moulded insulation providing the encapsulation for at least the stator end windings is formed in the moulding process with registering surfaces by which end shields provided at both ends and carrying bearings of the machine rotor are positively located with the bearing axis coincident with the stator axis, the end shields being secured in position by fixing means including threaded fixing members provided as inserts moulded into the insulation.

In this way the encapsulation not only protects the stator end windings but also provides concentric support for the end shields and rotor and fixtures for securing the end shields in position. The encapsulation may also have additional fitments, again provided as inserts, for the attachment of ancillary apparatus.

The threaded fixing members referred to may lie radially outwardly of the end shield periphery (which can therefore be of smaller diameter than would otherwise be required) and the end shields can be secured by means of washers or the equivalent overlapping the periphery and secured to the encapsulation using the threaded fixing members in conjunction with complementary threaded members applied to them. Rotation of the end shields may be prevented by providing the end shields and the encapsulation with cut-outs and complementary projections.

In order that the invention may be more fully understood reference will now be made to the drawing filed with the Provisional Specification in which Figs. 1 and 2 are respectively an axial section and an end view of a dynamo-electric machine having a stator embodying the invention.

Referring to the drawing, the stator 1 of the machine is encapsulated in moulded insulating material 2, for instance a glass-filled polyester moulding compound, which embeds and thereby protects the end windings 3 of the stator. End shields 4 carrying bearings 5 of the machine rotor 6 are concentrically located by circumferential registering surfaces 7 provided by annular recesses 8 formed in the encapsulation 2 in the moulding process. The peripheries of the end shields 4 sit in the recesses 8 and are overlapped by washers 9 which are secured on fixing studs 10 by nuts 11 and thereby retain the end shields in position. Rotation of the end shields is prevented by co-operation between cut-outs in their peripheries and complementary projections on the registering surface 7 as indicated at 12. The fixing studs 10 are provided as moulded-in inserts projecting from the encapsulation 2, as are also fixing studs 13 by which the stator may be secured to a support structure, and a stud, pin or the like 14 by which ancillary equipment, not shown, for instance part of a brake mechanism, can be mounted on the stator.

WHAT WE CLAIM IS:—

1. A dynamo-electric machine in which moulded insulation providing the encapsulation for at least the stator end windings is formed in the moulding process with registering surfaces by which end shields provided at both ends and carrying bearings of the machine rotor are positively located with the bearing axis coincident with the stator axis, the end shields being secured in position by fixing means including threaded fixing members provided as inserts moulded into the insulation.

2. A dynamo-electric machine as claimed in Claim 1, wherein additional fitments for the attachment of ancillary apparatus are pro-

vided as inserts in the encapsulation.

3. A dynamo-electric machine as claimed in Claim 1 or Claim 2, wherein the threaded fixing members lie radially outwardly of the end shield peripheries and the end shields are secured by means of washers, or the equivalent, overlapping their peripheries.

4. A dynamo-electric machine as claimed in Claim 3, wherein the end shields and the encapsulation are provided with complementary cut-outs and projections for preventing rotation of the end shields.

5. A dynamo-electric machine substantially as hereinbefore described with reference to the drawing filed with the Provisional Specification.

J. W. RIDDING,
Chartered Patent Agent,
33, Grosvenor Place,
London, S.W.1.
Agent for the Applicant.

Leamington Spa: Printed for Her Majesty's Stationery Office, by the Courier Press.
—1967. Published by The Patent Office, 25 Southampton Buildings, London, W.C.2,
from which copies may be obtained.

1087793 PROVISIONAL SPECIFICATION
1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

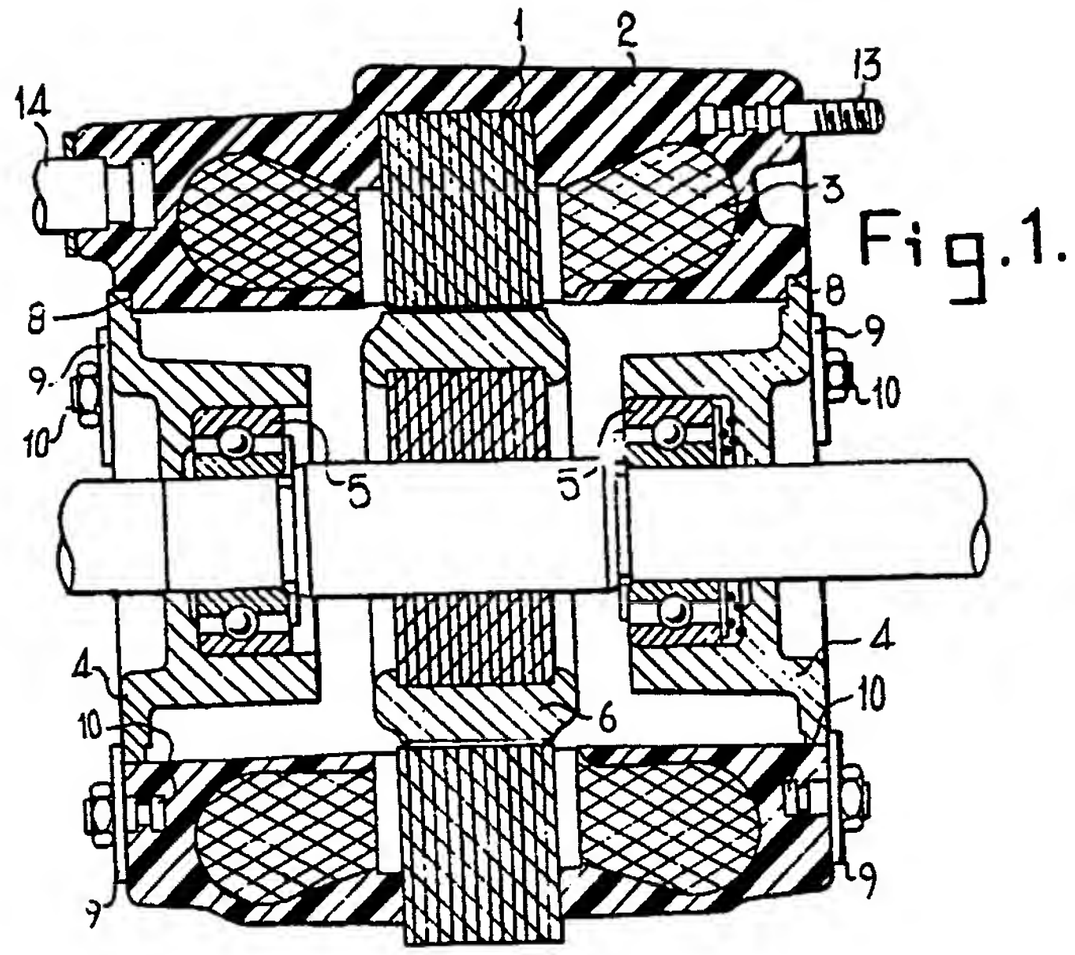

Fig.1.

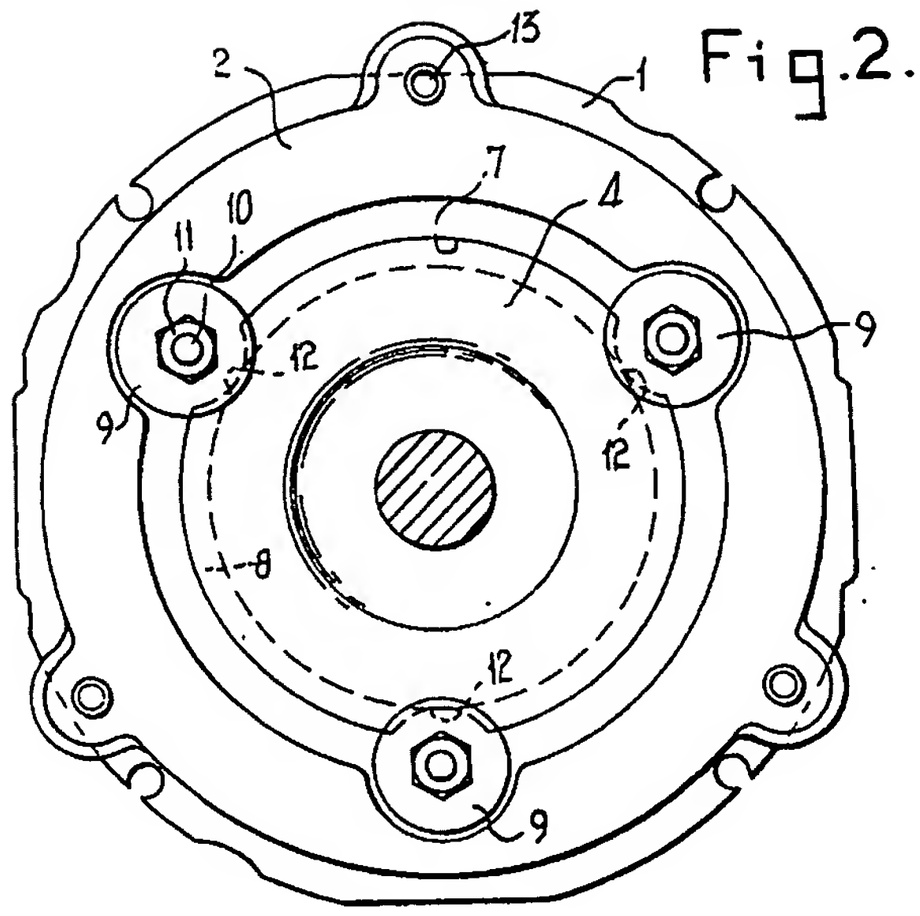

Fig.2.